

Fig. 3

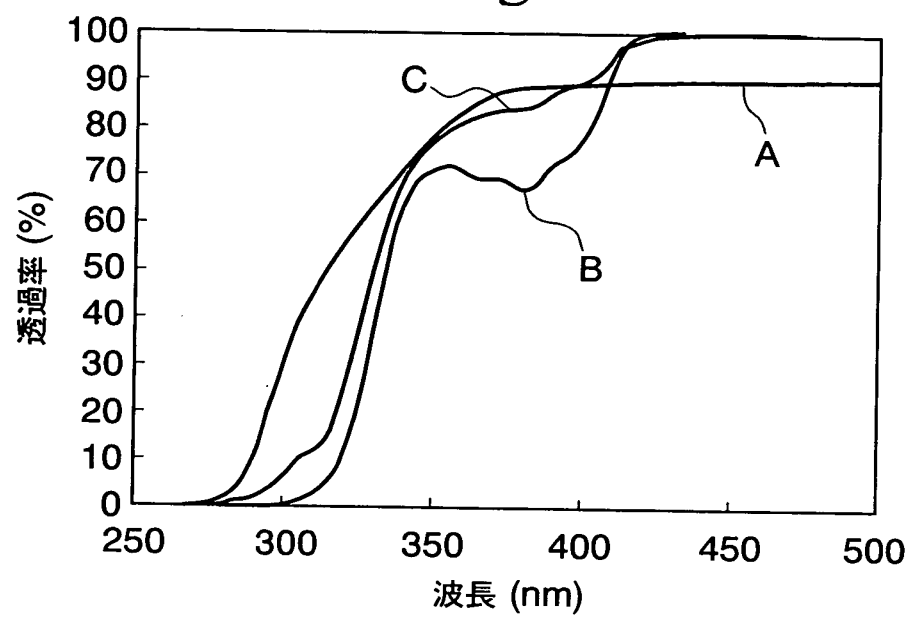


Fig. 4

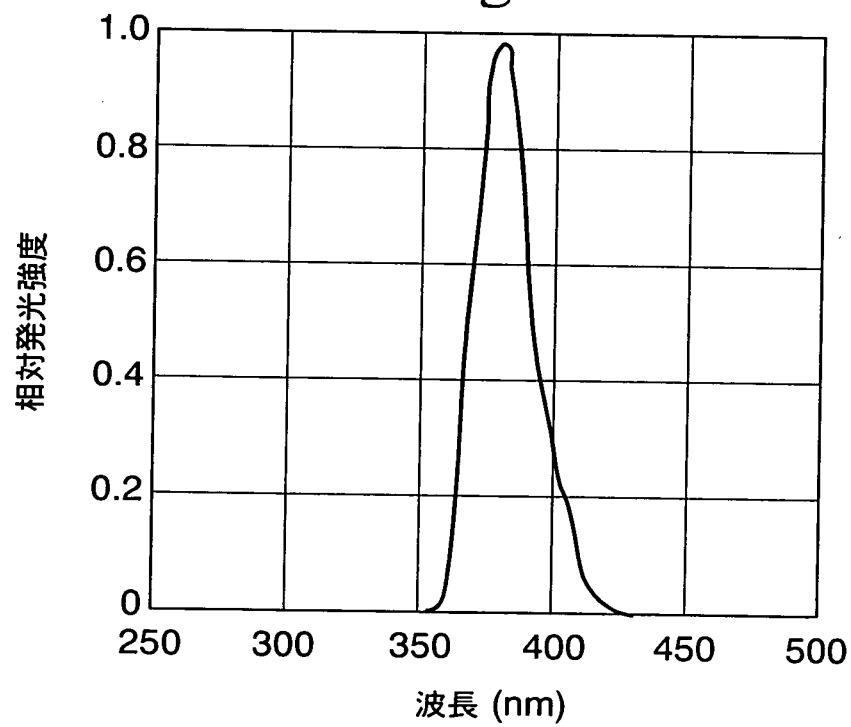


Fig. 5

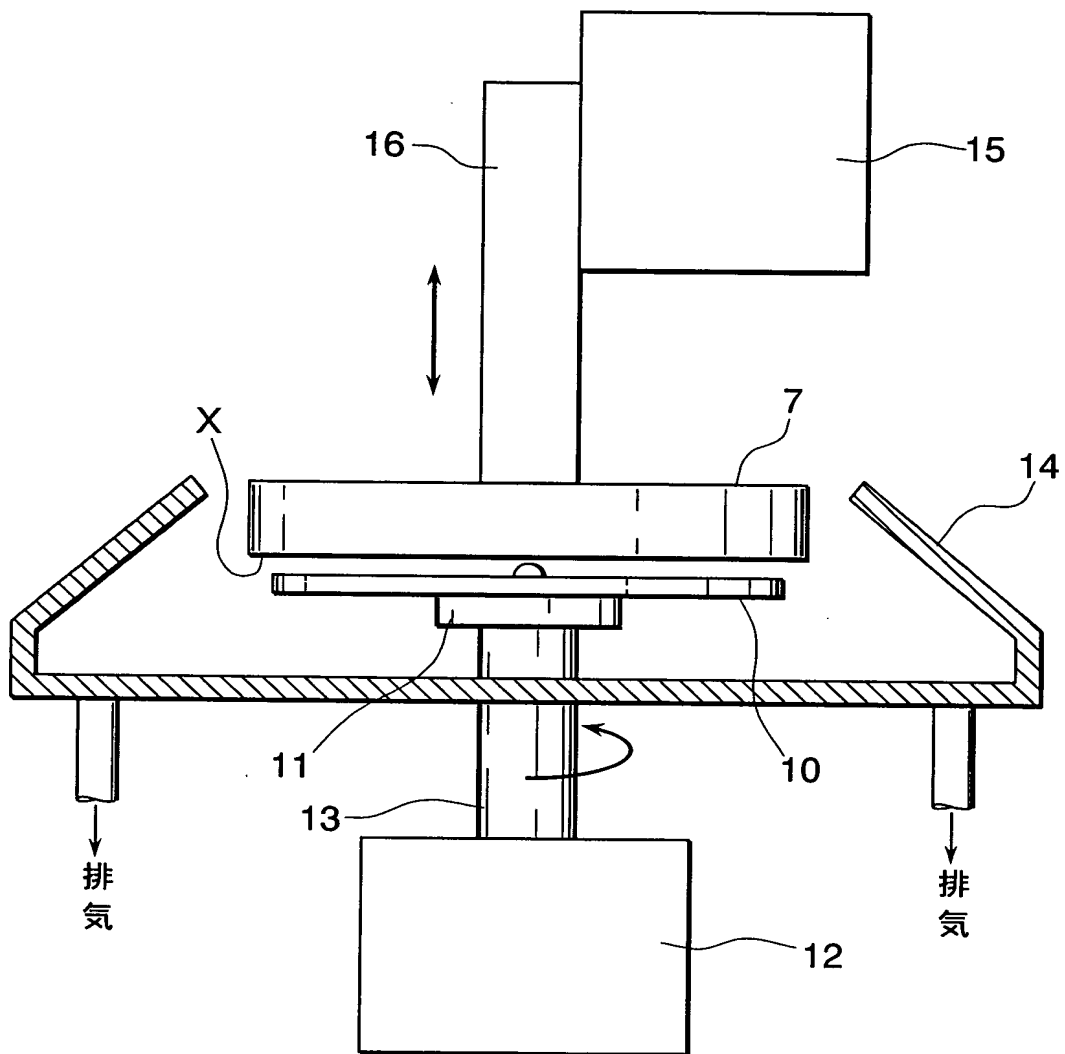


Fig. 6A

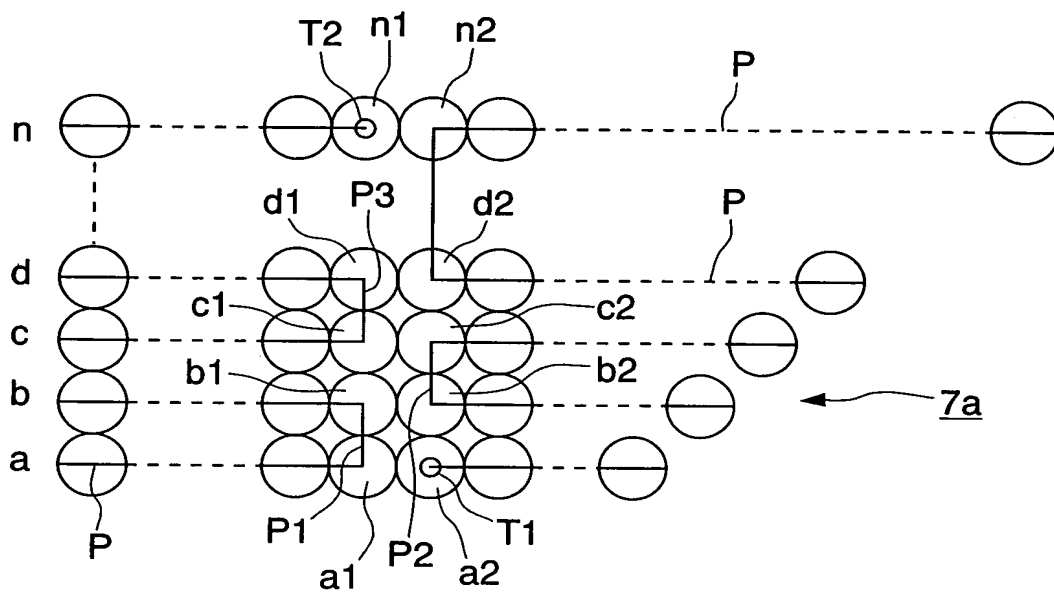


Fig. 6B

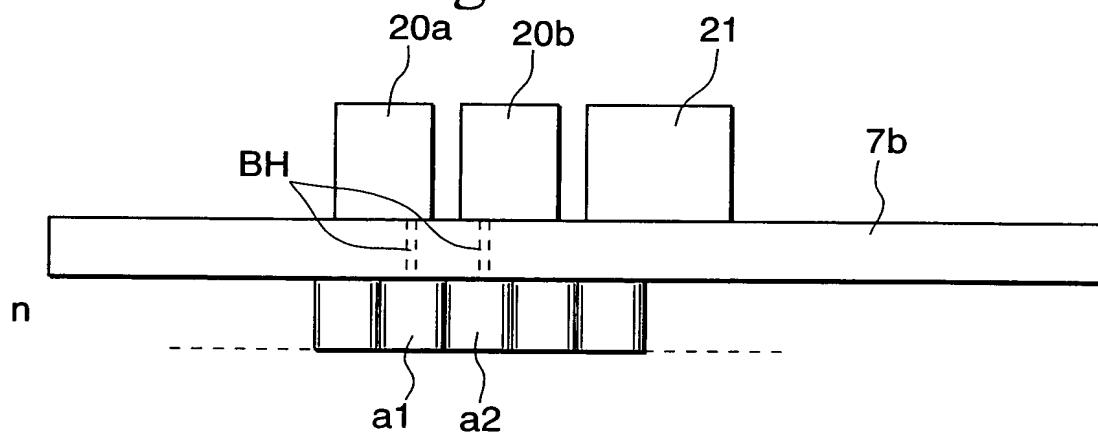


Fig. 7A

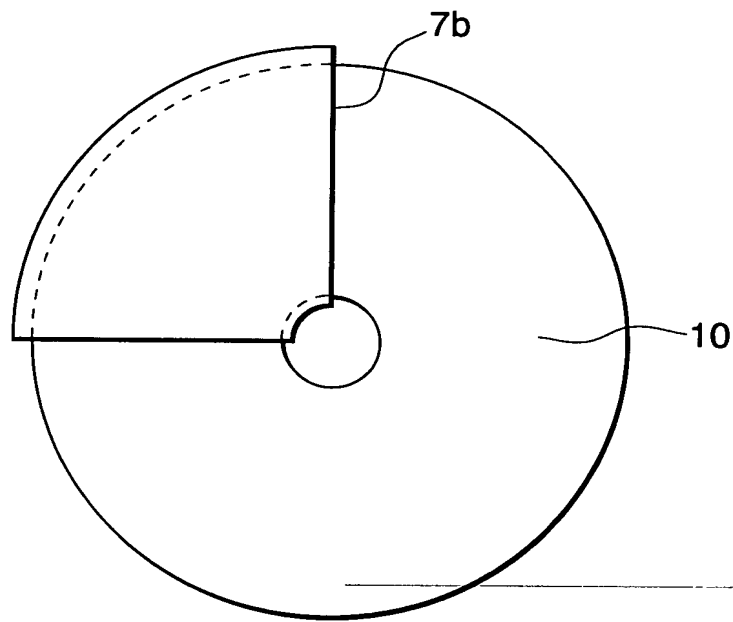


Fig. 7B

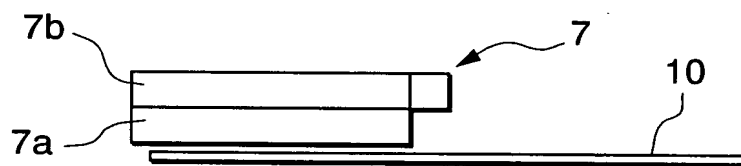
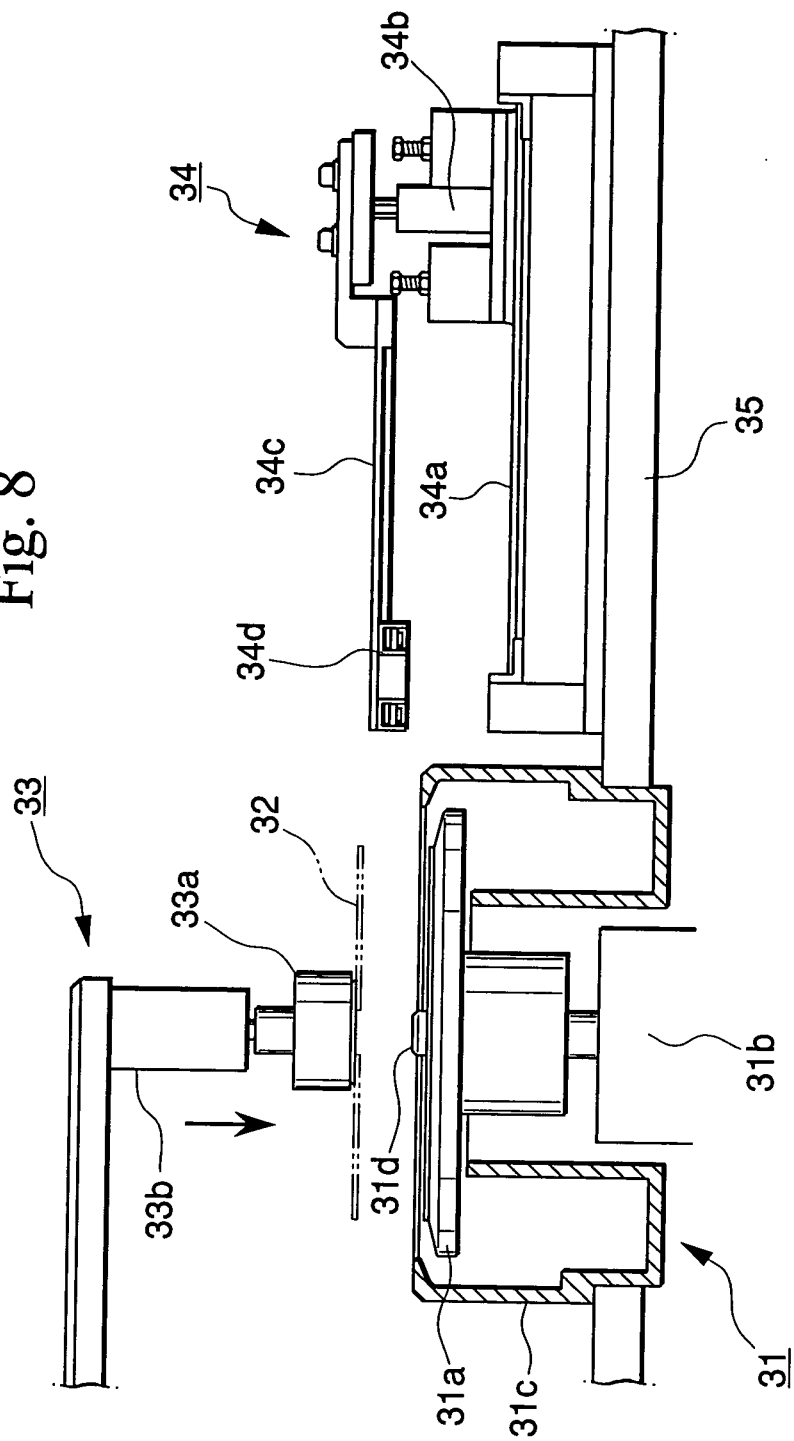


Fig. 8





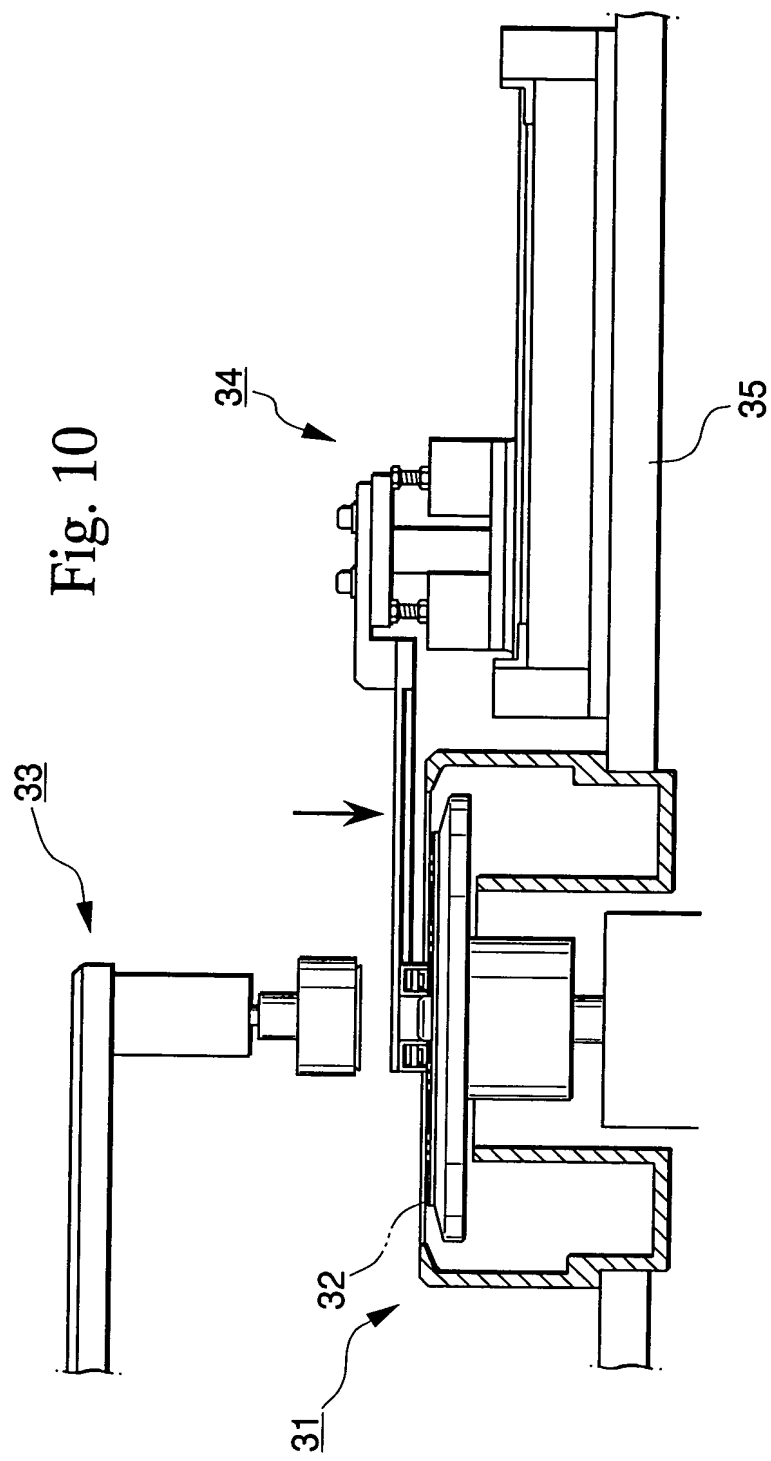
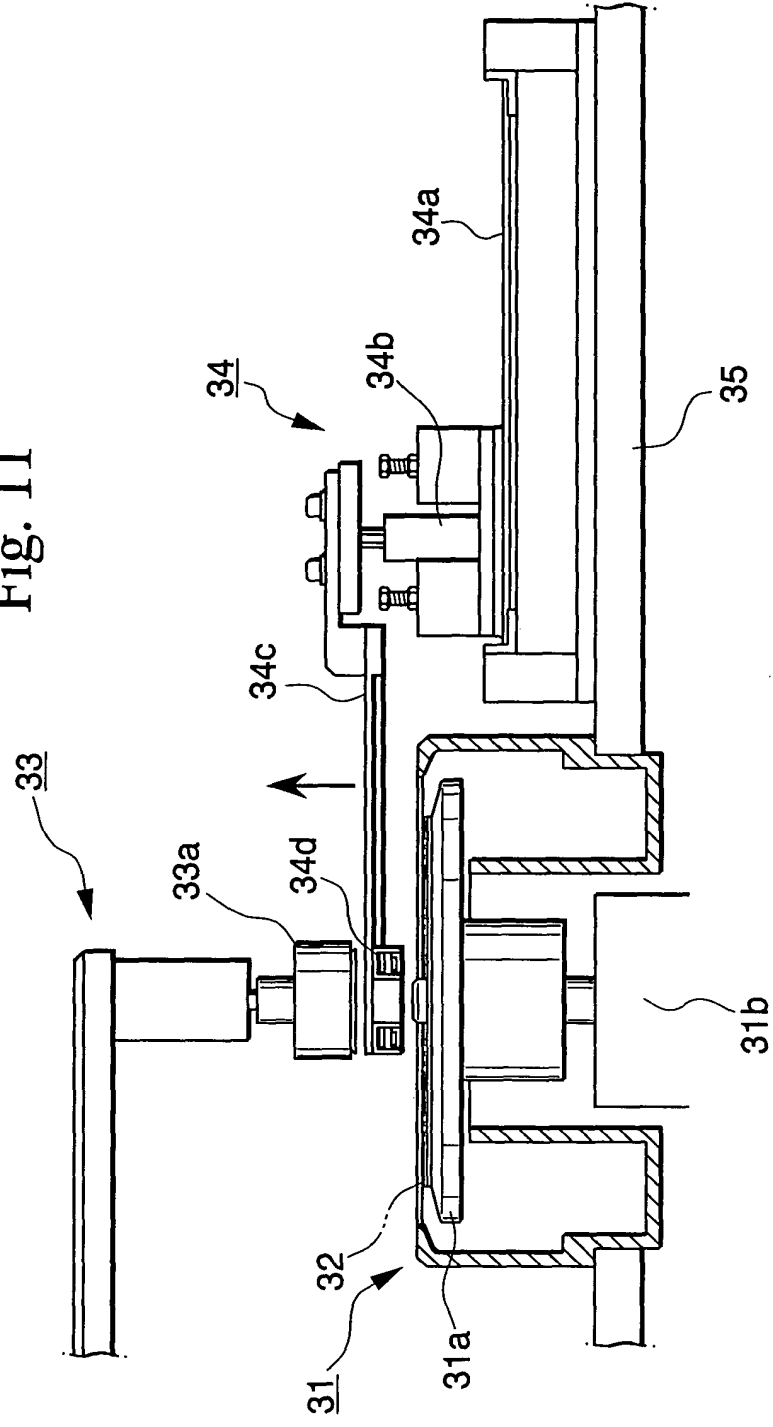




Fig. 11



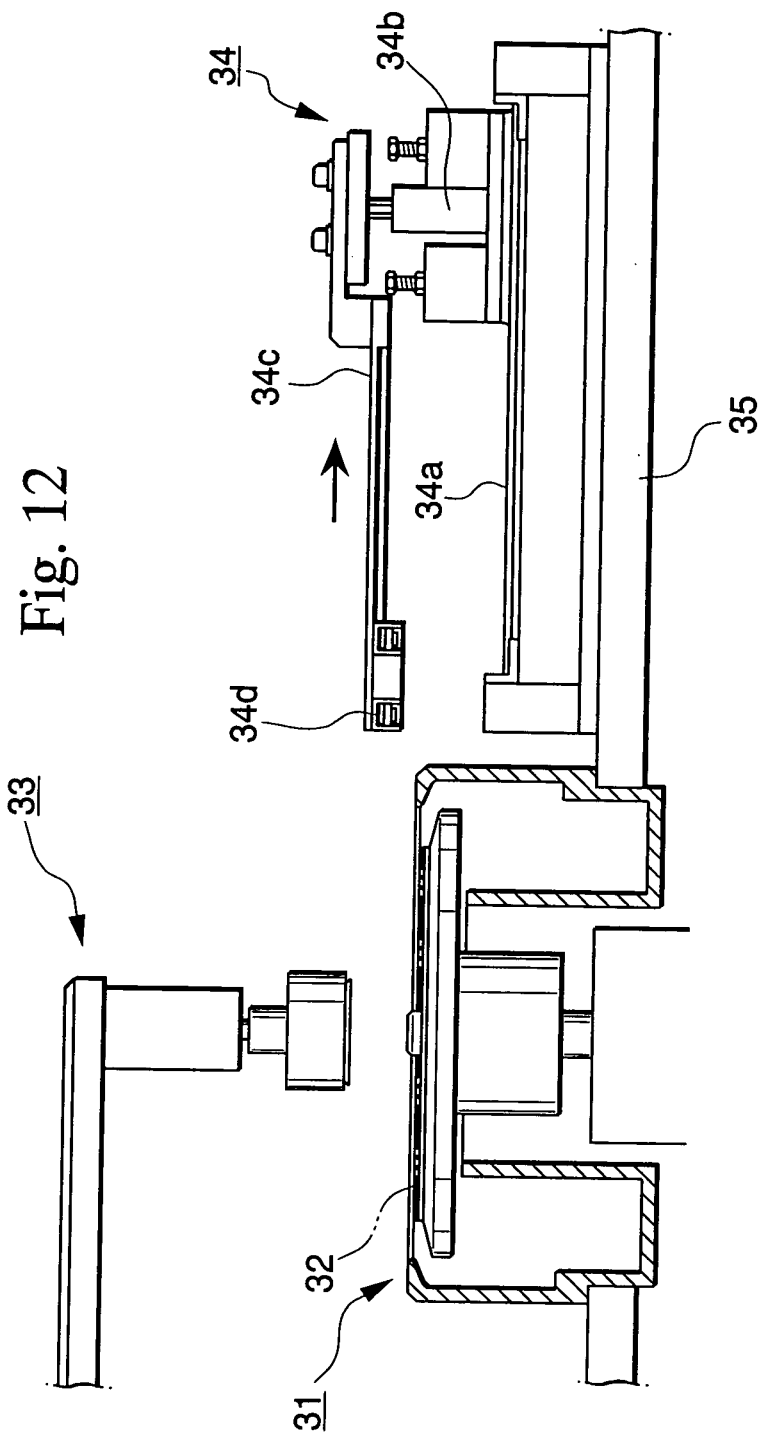
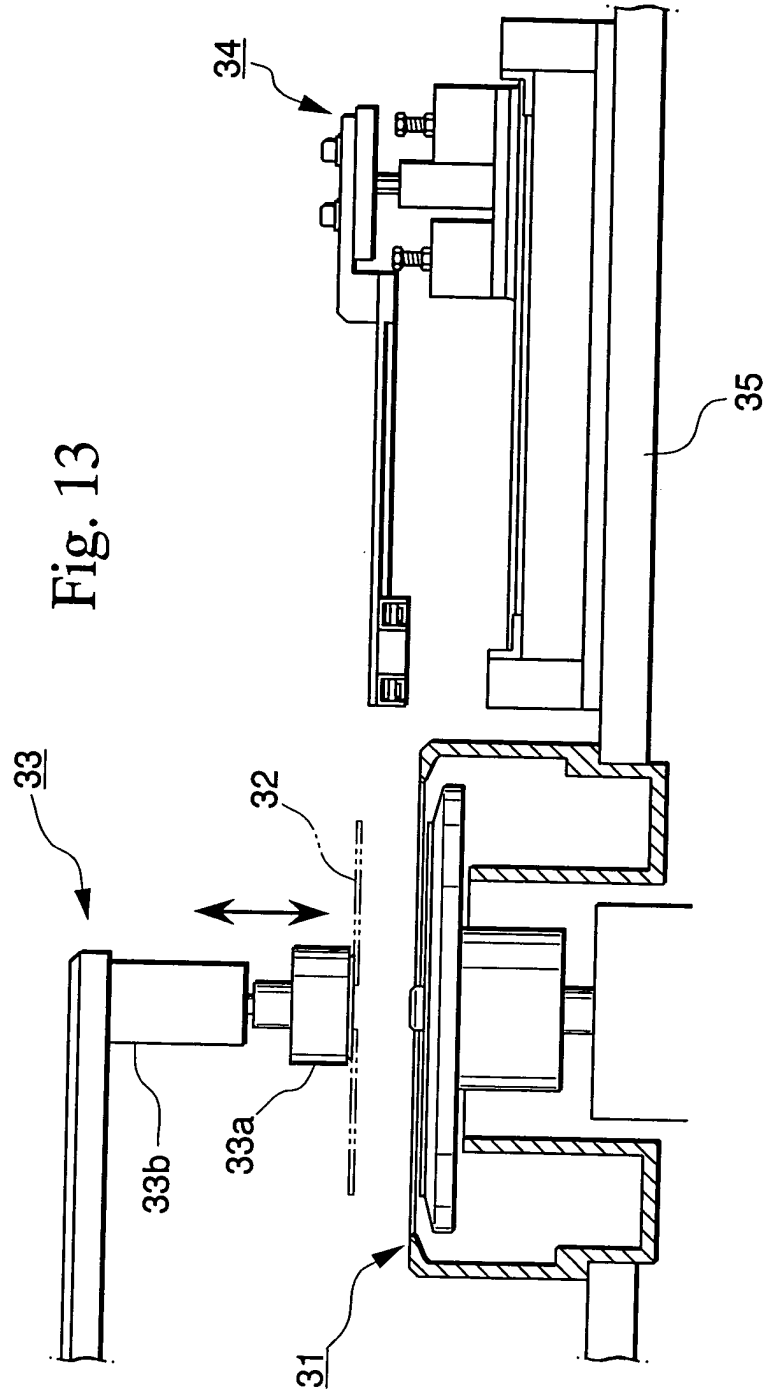


Fig. 13



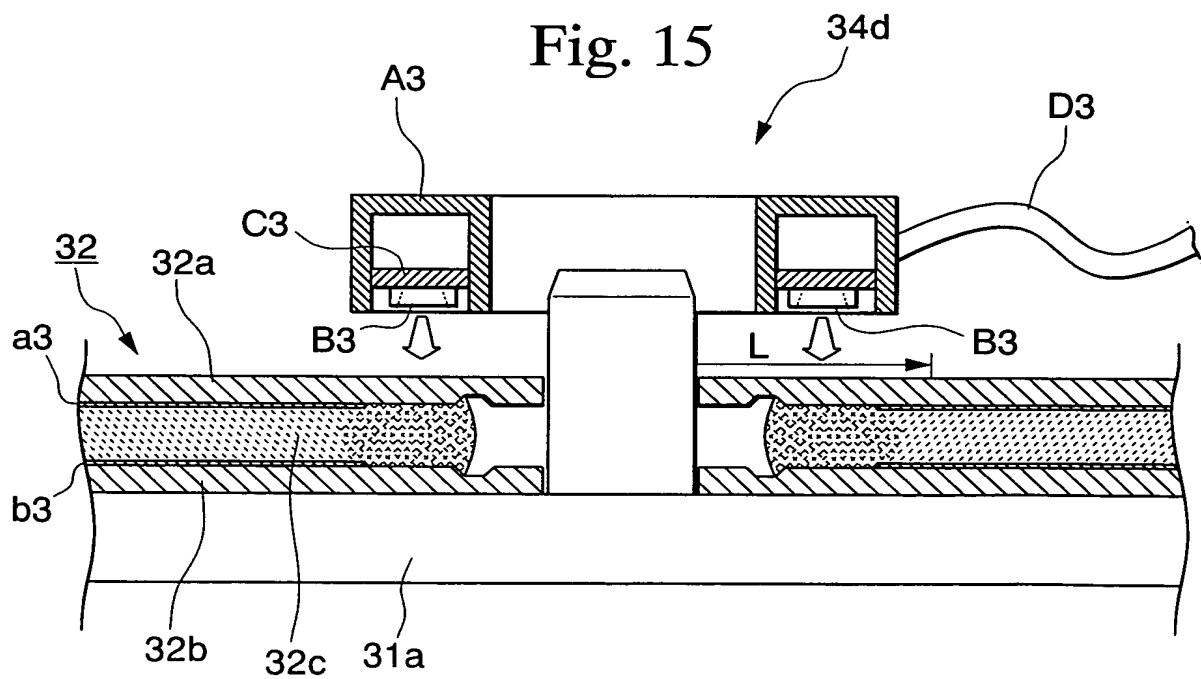
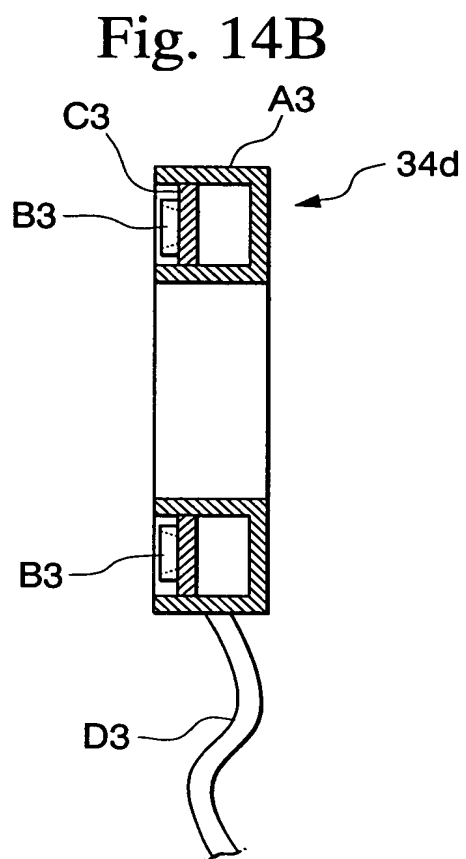
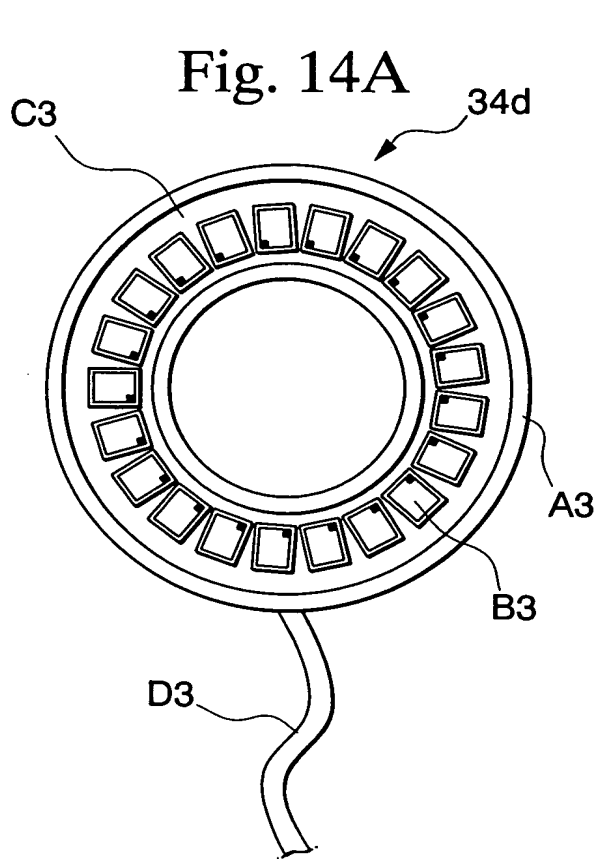


Fig. 16

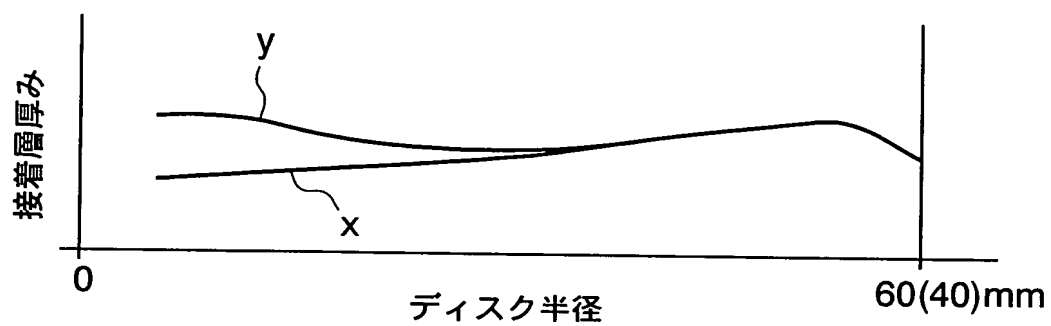


Fig. 17A

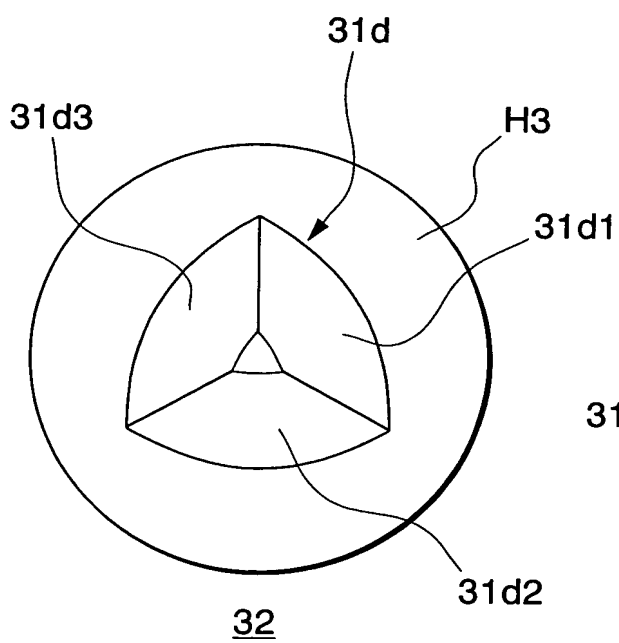
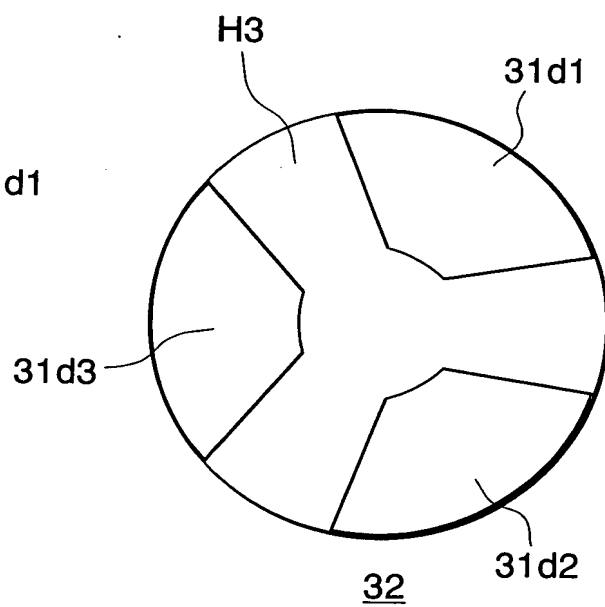


Fig. 17B



This cross-sectional diagram illustrates a semiconductor device. A central vertical structure, labeled 44, is positioned on a substrate 42. The substrate 42 is composed of a top layer 41a and a bottom layer 41b. A layer 413 is located between the substrate 42 and the central structure 44. A layer 412 is situated on the top surface of the substrate 42, and a layer 412a is on the side surface of the central structure 44. A layer 415 is located on the top surface of the substrate 42, and a layer 416a is on the side surface of the central structure 44. A layer 416b is located on the top surface of the substrate 42. A layer 43 is located on the side surface of the central structure 44. A layer 45 is located on the bottom surface of the substrate 42. A layer 49 is located on the bottom surface of the substrate 42, and a layer 49a is located on the side surface of the central structure 44. The central structure 44 is connected to a terminal 41a. The substrate 42 is connected to a terminal 41b. The central structure 44 is connected to a terminal 412. The substrate 42 is connected to a terminal 413. The central structure 44 is connected to a terminal 415. The substrate 42 is connected to a terminal 416a. The central structure 44 is connected to a terminal 416b. The substrate 42 is connected to a terminal 43. The central structure 44 is connected to a terminal 45. The substrate 42 is connected to a terminal 49. The central structure 44 is connected to a terminal 49a.

This cross-sectional view shows a central pillar (44) with a top layer (416a) and a side layer (416b). The pillar is flanked by two side structures (41a, 41b) which contain a central layer (42) and a bottom layer (41b). The side structures are separated by a gap (L). The entire structure is mounted on a substrate (43) with a base layer (411b). Other components labeled include 410, 45, 46, 47, 48, and 49.

Fig. 20

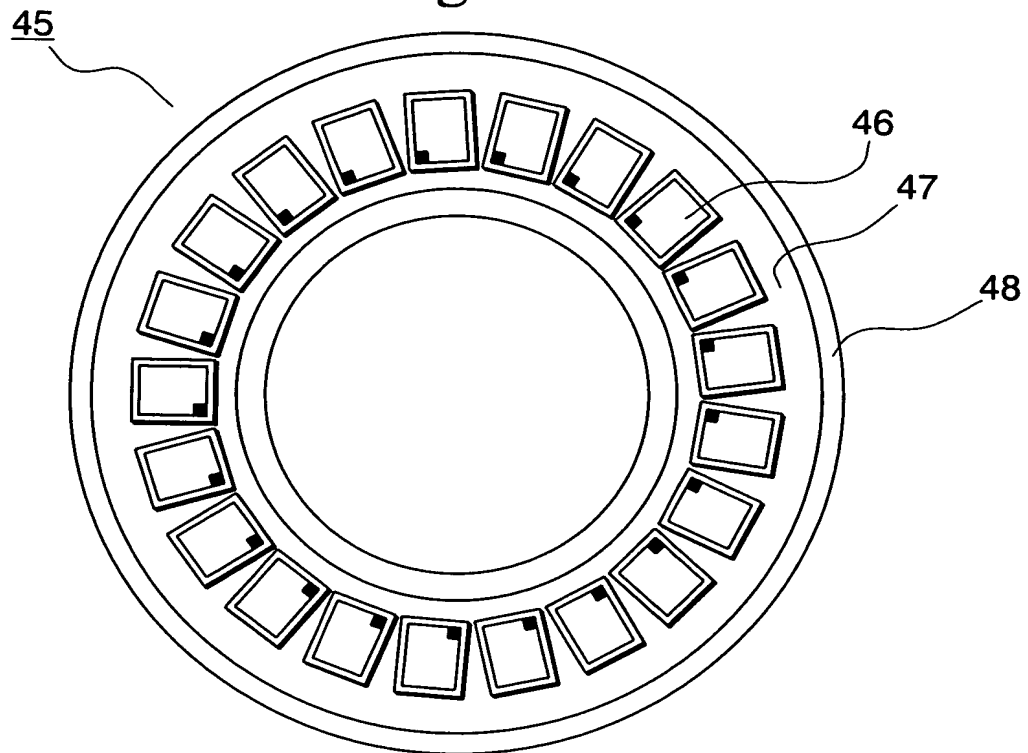


Fig. 21

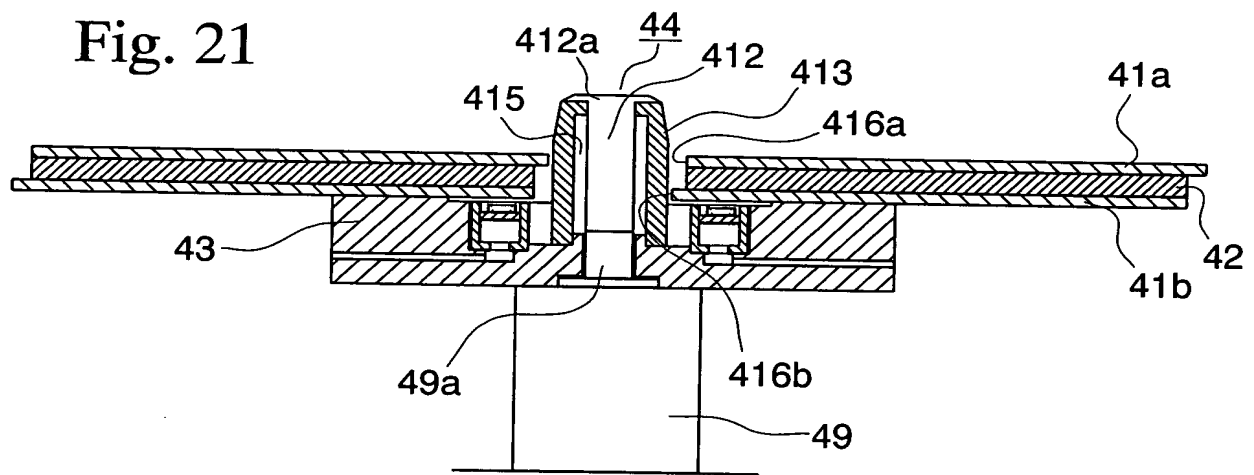


Fig. 22

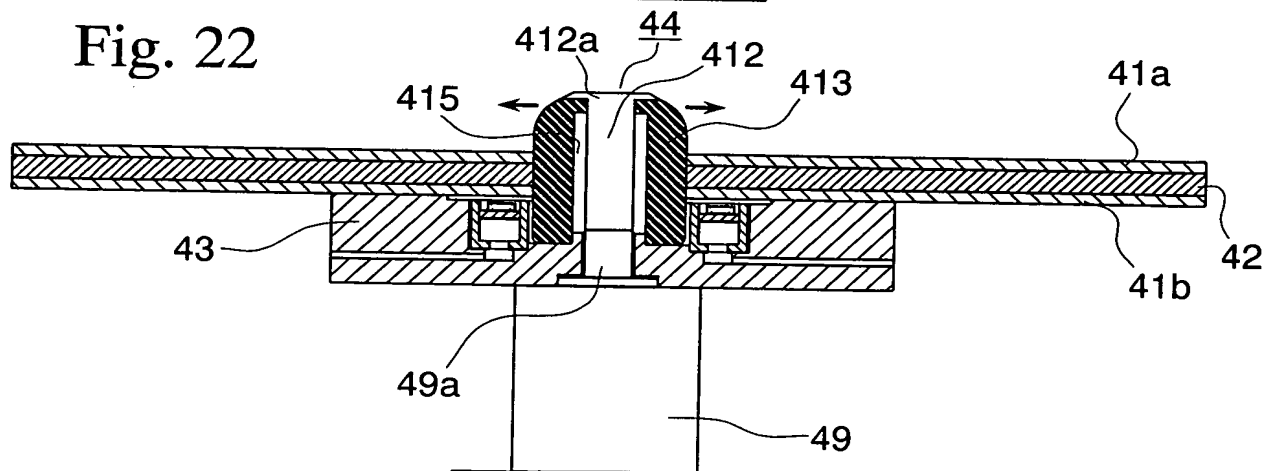


Fig. 23

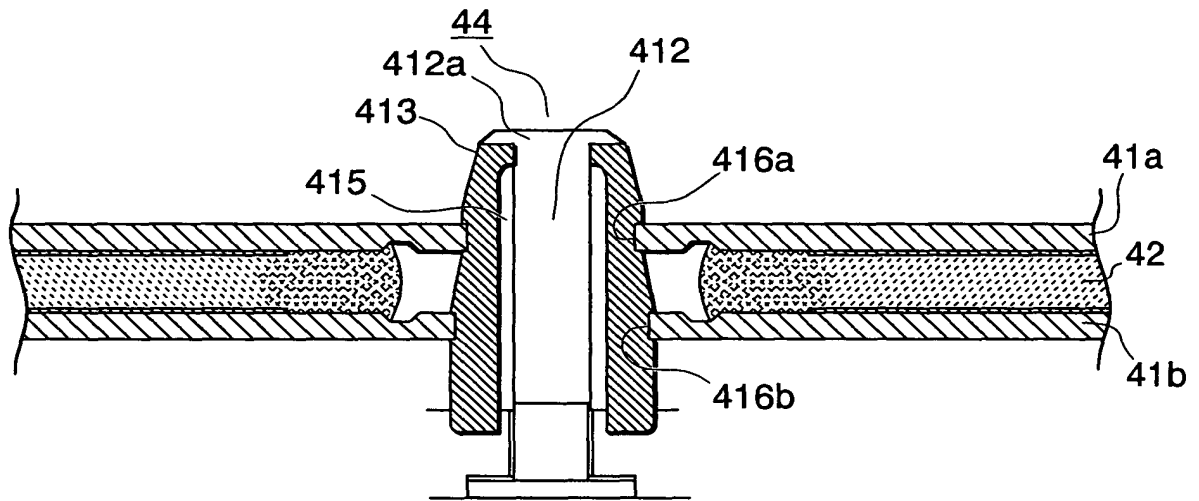


Fig. 24A

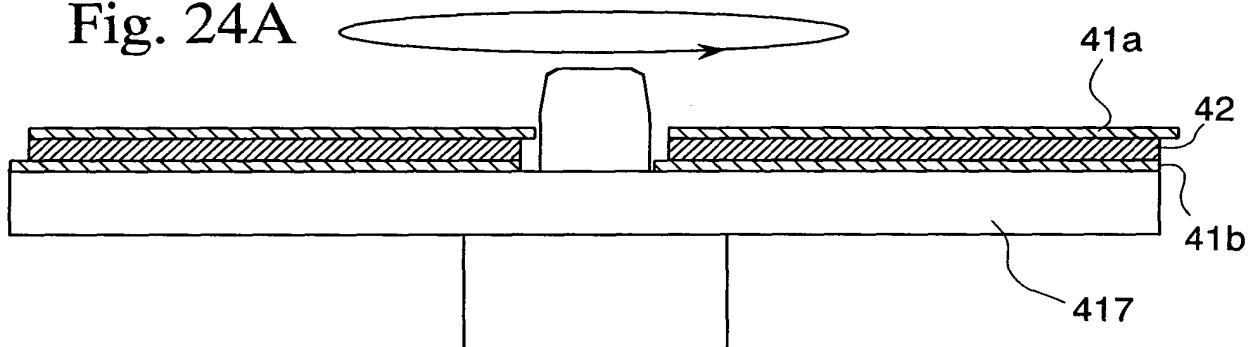


Fig. 24B

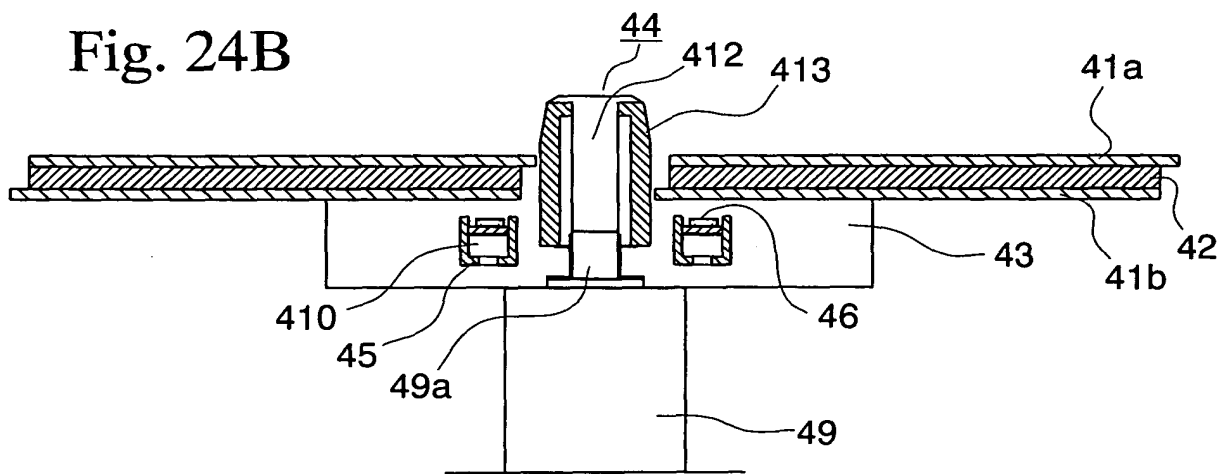




Fig. 24C

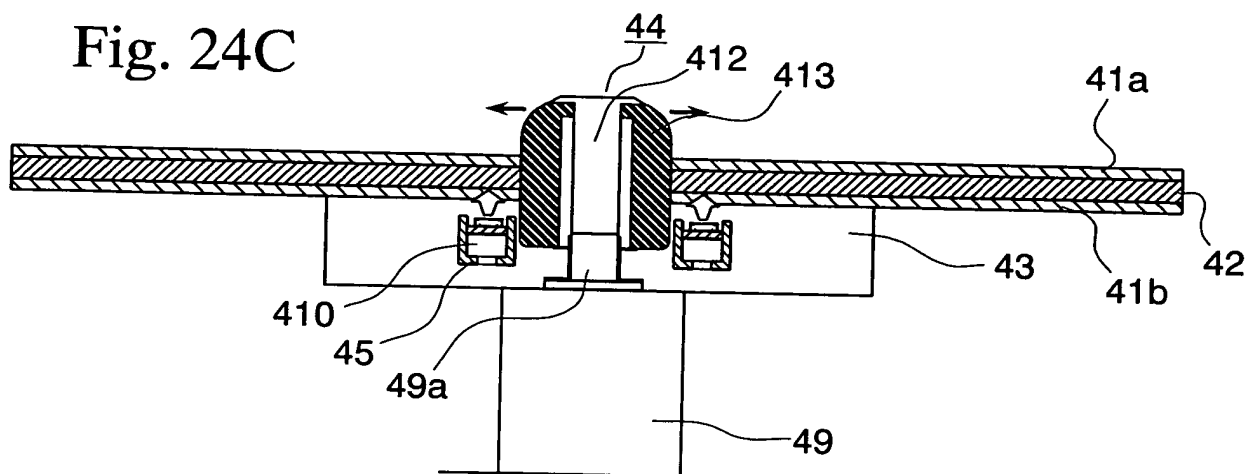


Fig. 24D

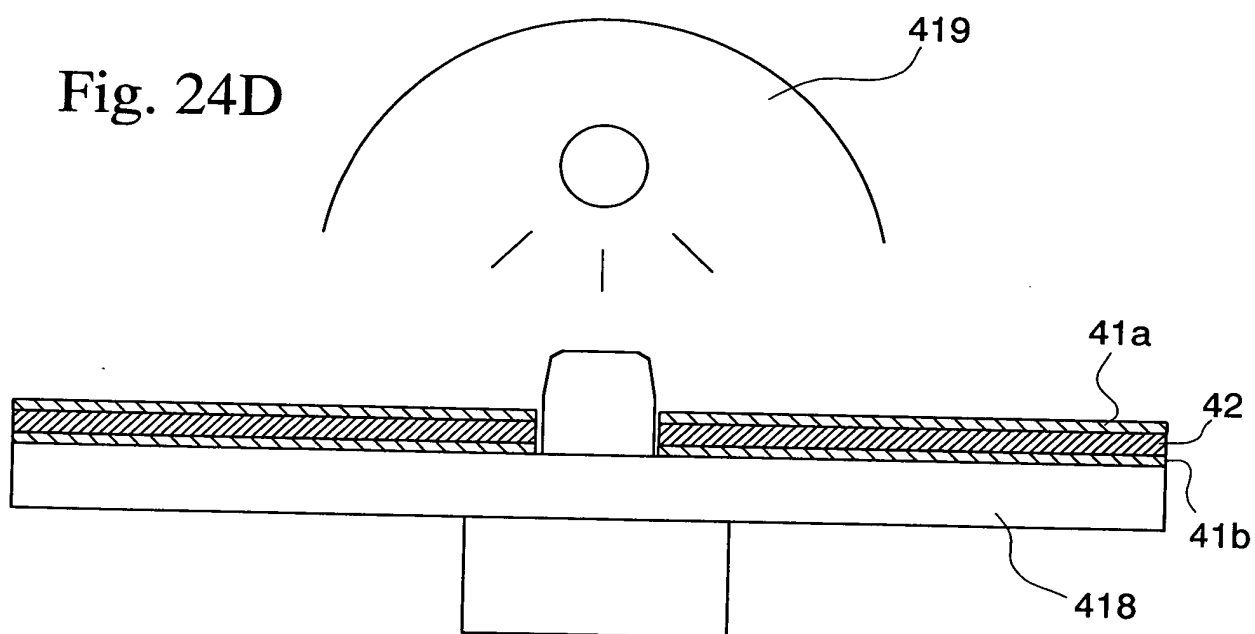


Fig. 25

